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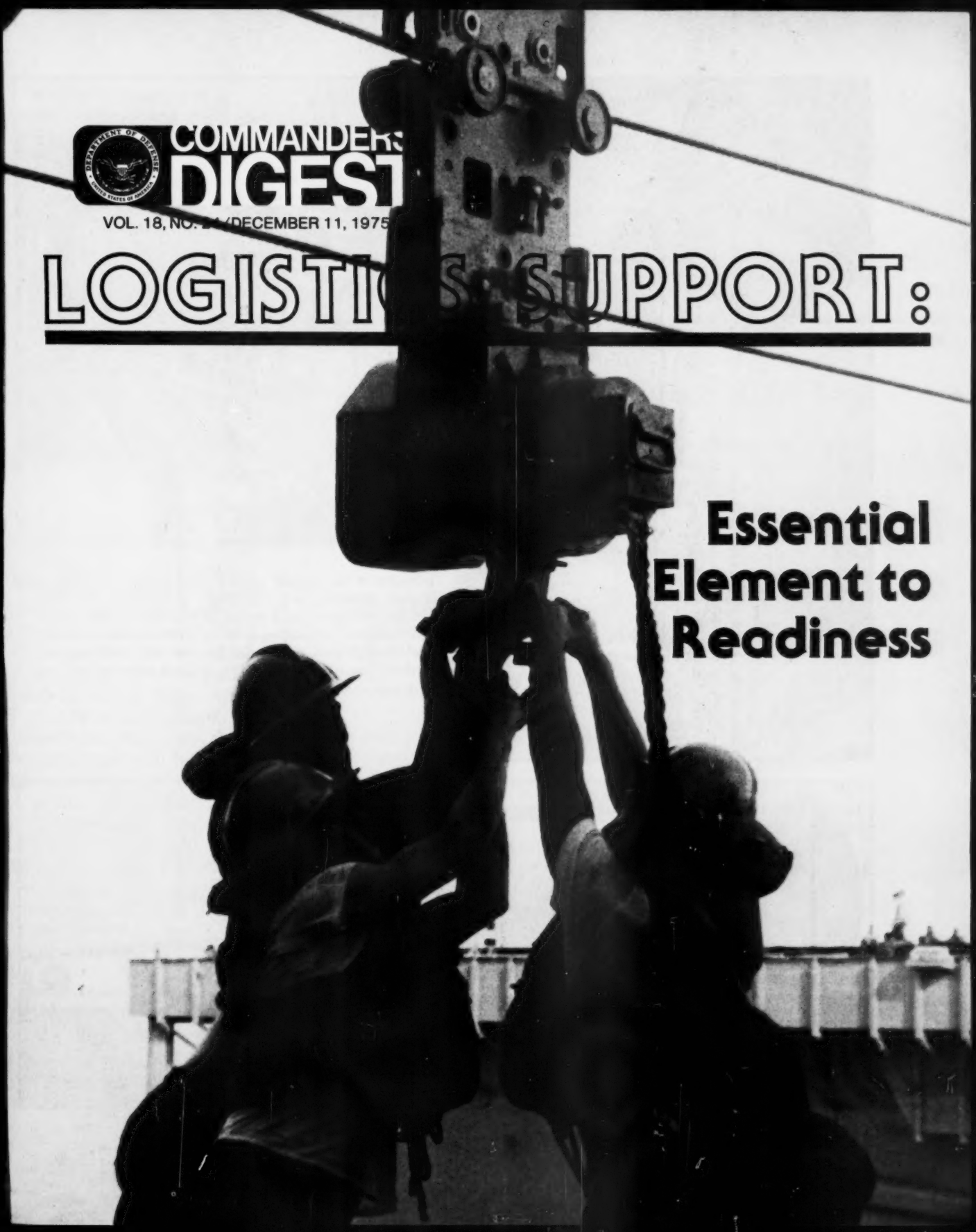
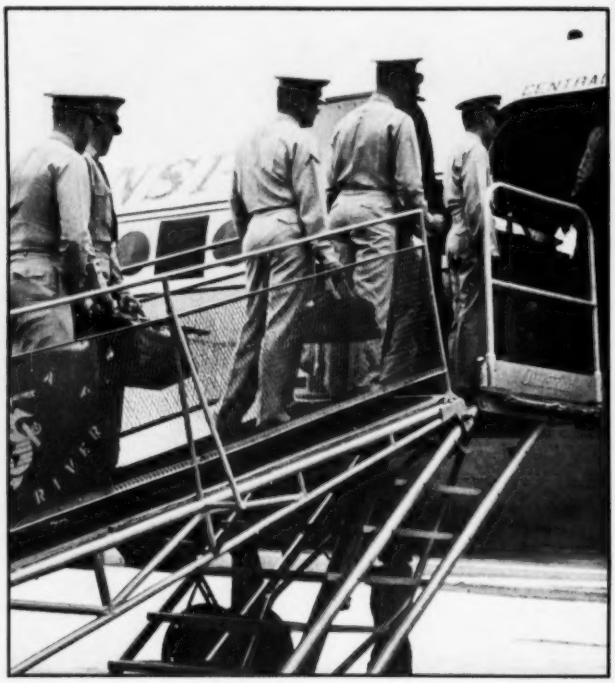
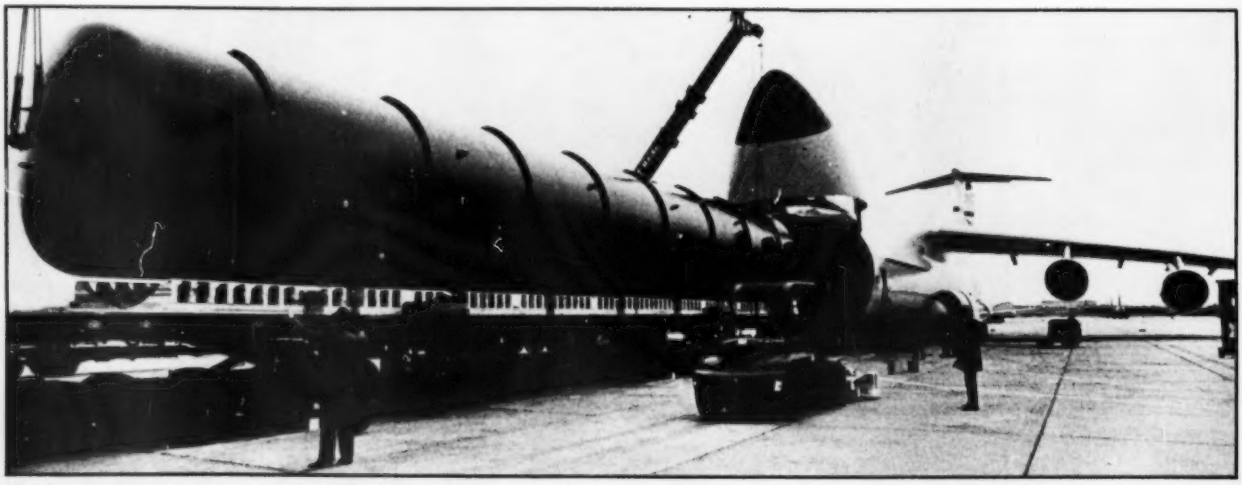
LOGISTICS SUPPORT:

Essential Element to Readiness





Whether it be loading ammunition onto a customer ship (cover), working in a shipfitter's shop on an aircraft carrier, transporting a group of Marines to their next duty station, or loading a 91 by 14-foot underground fuel storage tank onto a C-5 aircraft for airlifting to Turkey, logistics support is a critical element of Defense combat capability.



DoD Goals Include Readiness, Efficiency, Balance

By

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Logistics support is a critical element of Defense combat capability. It:

- provides material to the combat forces;
- maintains weapon systems and equipment ready for combat;
- provides a capability to repair them should a war start;
- provides support to the men and women in uniform; and
- maintains DoD's physical plant.

Sometimes people limit logistics to those activities performed in the central maintenance and supply depots. However, this article deals with the logistics activities that take place within the operational units such as the tactical air squadrons, combat ships, divisions and the like. Also, intermediate level activities such as repair ships, Air Force base maintenance squadrons, and Army field maintenance will be discussed.

It must be emphasized that definitions are a problem. It is inevitable that any classification of logistics activities will be somewhat arbitrary. Different people include more or fewer activities under the logistics rubric.

Each year the Secretary of Defense issues a comprehensive package of Defense policy, planning, and programming guidance. A section on logistics provides guidance on how the Services are to balance logistics support capability with their combat forces consistent with the national strategy. It also summarizes Office of Secretary of Defense (OSD) concerns about materiel readiness and suggests areas where efficiency improvements appear possible. Another major, substantive section of the guidance is the Secretary's five-year fiscal guidance within which each Service must fit its total five-year program proposal, including logistics activities.

Three major goals are expressed in the current logistics guidance. The first is to improve the materiel readiness of the forces. The second is to increase the efficiency of the Defense logistics system. The third is to ensure a proper balance between logistics activities and the rest of the total Defense program.

The Services proposed programs that embody a multitude of diverse logistics programs. For purposes of exposition, these are grouped under the nine headings on Chart 1. The funding figures represent DoD's best estimates of the resources to be spent on those functions in FY 76. These estimates were prepared to give some feel for the relative magnitudes involved. They are not routinely obtainable from DoD's normal management information systems.

The first heading deals with maintenance, repair, overhaul, modification, and alteration of weapon systems and components. This is the largest category and accounts for about $10 billion. Maintenance, repair, and overhaul activities are required to keep equipment operating. Considering that DoD's inventory of sophisticated weapon systems and equipment is worth several hundred billion dollars in today's prices, it is obviously reasonable to spend a few billion each year to keep them ready to operate.

Keeping Defense equipment ready for combat is the prime task here, but a comment must be made on the "mods and alts" (modifications and alterations) program because of its significant cost-saving implications. DoD modifies and alters its weapon systems and equipment for three basic reasons:

• DoD modifies and alters to increase the combat capability of existing weapon systems to enable them to keep pace with the increasingly sophisticated and technologically advanced nature of the threat that Defense faces. Examples of this type of modification are: the installation of low altitude, terrain-following radar and more capable electronic counter-measures suites in the B52s, the modification of a part of the F-4 fleet to deliver precision-guided-munitions, modification of Navy A-6As to A-6Es with greatly improved all-weather, air-to-surface weapons delivery capability, and the installation of wing slats on our F-4Es to increase their close-in maneuverability and their overall air combat capability.

• DoD also modifies weapon systems to extend their safe and useful service life. Good examples of such modifications are the conversion of the Navy's F-4B to the F-4N, and the structural modification of the wings of part of our B-52Ds.

• Third, DoD modifies and alters specific components and sub-systems in order to increase the reliability (reduce the probability of equipment failures) and maintainability (reduce the time, effort, and expense of fixing things when they do break). Examples of this type of modification are the Air Force's replacement of all existing airborne tactical air navigation systems (TACANs) and ultra high frequency (UHF) radios with new, more reliable and maintainable units. DoD is increasing its emphasis on reliability and maintainability modification activities.

The first two types of modifications and alterations enable DoD to keep equipment in operation for 15 to 40 years. Considering that few of people have cars over 10 years old, this is a considerable achievement to which the modifications and alterations portion of the logistics program makes a major contribution.

Chart 1

MAJOR LOGISTICS ACTIVITIES

	Est. FY 76 $B	%
Maintenance, Modification, Alteration	10.1	37
Supply —Operations	3.3	12
—Procurement of Spares & Mod/Alt Kits	4.1	15
Transportation	1.7	6
War Reserve Munitions Procurement	1.5	6
Industrial Preparedness	.5	2
Investment in Logistics Facilities and Equipment	.8	3
Real Property Maintenance Activities	3.7	14
Hqs and Command at Logistics Bases	.5	2
Other Logistics Activities	.9	3
Total	$27.2B	100%

Maintainability and reliability improvements countervail against the increased costs of maintaining more sophisticated equipment. The entire modification and alteration program helps keep down both DoD procurement bill and maintenance bill.

It costs about $7.4 billion a year in order to operate DoD's supply warehouses and procure the replacement parts and the modification and alteration kits for maintenance activities. About 3.7 million different items are maintained in the DoD supply inventories today.

As weapon systems have become more complex and their spare parts more expensive, Defense has taken steps to reduce supply system inventories and the associated capital investment. Care must be taken, however, to insure that DoD has enough inventories and to distribute those inventories to the appropriate levels. If an adequate job is not done to get the right part to the right place at the right time a multi-million dollar weapon system may be virtually useless when it is needed.

Transportation captures the $1.7 billion which DoD devotes to the movement of materiel. If transportation charges paid as a part of materiel procurement costs were included, and the movement of personnel and their household effects, this number would approximate $4 billion.

War reserve munitions procurement is a particularly vital element of DoD combat capability. Munitions is the commodity where there is the largest expansion of demand in wartime over that generated by normal peacetime training operations. Also, several months would be required to expand production after shooting starts. This means that DoD must maintain substantial quantities of war

Army logistics support means getting the equipment to the forces in the field. Here, five-ton diesel tractors on the dock await shipment to their destination.

reserve munitions in its peacetime inventories to support combat forces on short notice in time of war.

Another vital element of DoD's total war reserve posture was imbedded in the supply figure in Chart 1. This is in reference to the war reserve inventories of spare and repair parts which must be maintained in peacetime to support the surge in activity levels in wartime. Recent history offers some convincing examples of the importance of such war reserve spares. For instance, in 1972, the Air Force was required to deploy a 72-aircraft A-7D tactical fighter wing to Thailand on short notice. The unit had a prepackaged "war readiness spares kit", or WRSK, for each of the three squadrons involved. More than one-third of the 72 aircraft had to draw one or more parts from their WRSK to replace a failed component while enroute. The 72-aircraft wing started flying combat sorties within hours of its arrival in Thailand. In the first 16 days of combat, about 70 per cent of that wing's spare parts demand were satisfied out of the WRSKs that had accompanied it. That wing's total combat sorties during the first 16 days were about 37 per cent higher with its war reserves than they would have been without them.

The preponderance of industrial preparedness resources are devoted to the modernization and expansion where necessary of the antiquated, inefficient, seriously polluting pre-World War II vintage munitions production base.

Under logistics facilities investment, DoD groups all the capital investment in logistics facilities and equipment, other than the munitions production base modernization and expansion. Examples are the Navy's shipyard modernization program, and the Air Force's depot plan modernization program which, among other things, is increasing productivity by the application of modern automated materials handling techniques.

Real property maintenance activities encompass the approximately $3.7 billion spent on utilities, minor construction, and maintenance and repair of real property. The maintenance of real property accounts for about $1.5 billion of the $3.7 billion. The acquisition value of DoD plant and facilities was about $42 billion. About 3.6 per cent per year for maintenance of that plant is modest. Examples of the kind of work done are patching of cracked and crumbling runways, and the upgrading of base utilities systems to enable them to meet increased power demands.

The headquarters and command category is self-explanatory. The headquarters and command structure of the operating commands such as the Strategic Air Command are not considered to be a logistics cost. However, the cost to man and operate the headquarters and command structure of the Air Force Logistics Command and similar logistics commands is regarded to be a logistics expense.

The other logistics activities category sweeps together a myriad of mundane but essential activities, such as property disposal and the operation of printing plants and laundries.

Resources are required from various budget appropriations: Operations and Maintenance (O&M), Military Personnel, several different Procurement accounts, Military Construction, and even a little Research and Development (R&D) money, as shown on Chart 2.

It is estimated that more than 40 per cent of the Defense logistics activities is funded from other than the O&M appropriation.

This picture of Defense logistics includes not only centralized activities but those performed at lower echelons as well. Maintenance and supply, and some other logistics activities, are actually accomplished by a set of interrelated activities at different levels of the Service organizations.

Chart 2

ESTIMATED FY 76 RESOURCES IN THE DEPARTMENT OF DEFENSE (FY 76 $B)

	Operations & Maintenance	Military Personnel	Military Procurement	Military Construction	Other	Total
Maintenance, Modification, Alteration	7.8	2.3	--	—	—	10.1
Supply —Operations	2.6	.7	—	—	—	3.3
—Procurement of Spares & Mod/Alt Kits	—	—	3.8	—	.3	4.1
Transportation	1.4	.3	—	—	—	1.7
War Reserve Munitions Procurement	—	—	1.5	—	—	1.5
Industrial Preparedness	.1	—	.4	—	—	.5
Investment in Logistics Facilities and Equipment	—	—	.4	.4	—	.8
Real Property Maintenance Activities	2.9	.3	.1	—	.4	3.7
Hqs and Command at Logistics Bases	.4	.1	—	—	—	.5
Other Logistics Activities	.8	.1	—	—	—	.9
Total	15.9	3.9	6.2	.4	.7	27.2

For example, an Air Force F-4 fighter aircraft is maintained from day-to-day by combat unit level maintenance personnel and more specialized intermediate maintenance personnel, both normally located at the aircraft's home base. That aircraft also periodically goes to a central depot where it may be overhauled, treated for corrosion, modified structurally, and have new versions of equipment installed.

The point that must be made is that for most logistics activities, such as maintenance, there must be a close integration of what is done at the base level, intermediate level, and central level. Therefore, one wants to be careful when talking about "teeth-to-tail ratios", or "combat versus support". One must not fall in the trap of thinking that the activities that take place within, say, an Army mechanized division or on board a Navy destroyer all represent combat capability, and that the activities that take place, say, at a tank repair depot or at a destroyer tender do not. In fact, the ability to maintain and repair Defense equipment is a vital aspect of DoD combat capability and deterrent. Without this capability some "teeth" would just be "gums".

DoD strives to improve the integration and harmonization of the activities at the various levels. In some cases, this may mean reallocating resources from the central depot level to the operating units. Sometimes the needed reallocation is in the other direction. In both cases, however, DoD intends to increase the "biting" ability of the "teeth".

Earlier it was pointed out that DoD guidance has three objectives: an appropriate level of material readiness, an efficient logistics structure, and an appropriate balance between logistics and the other Defense activities such as force modernization. Improving readiness tends to drive up the logistics portion of the budget because it implies fixing broken equipment, bringing weapons up to date technologically, filling spare parts bins, and buying war reserves. Efficiency improvements lower resource requirements. The balance criterion can either increase or decrease resource requirements.

The implication is that the success of Defense logistics planning and management cannot be measured by simply looking at the trend of resources devoted to these activities. An upward trend may indicate improved materiel readiness or less efficiency; a downward trend may be a mark of efficient management or a harbinger of readiness problems.

Since 1972, the share of the Defense budget going to the activities discussed has declined a few percentage points. It used to be about 28 per cent; in 1976 it will be about 26 percent. This trend does refute a couple of myths. One myth is that the logistics portion of the budget has not been contracting along with the force structure. Another myth it refutes is that logistics costs have been eating us out of house and home. We have not been converting swords into supply depots.

On the other hand, the trend raises the question of whether enough has been spent in the past. The even more relevant question is: what will happen to logistics costs in the future? These are hard questions. DoD has serious material readiness deficiencies. The problem with the material condition of the Navy fleet has, for example, been receiving much publicity. Moreover, equipment is kept in Defense inventories from 15 to 40 years. Anyone who has maintained a 10-year-old car knows what that means. Increasing weapon system sophistication also creates additional upward pressure for logistics resources.

There are vital needs for logistics resources and these needs are going to grow. As it is seen now, this growth will not exceed the resources that can reasonably be expected if Congress funds DoD at the Top-Line projection provided with the President's 1976 Budget. DoD is striving to improve the maintainability and reliability of its equipment. Requirements are being analyzed and scrubbed. Defense is pursuing efficiencies in the way logistics services are provided in order to offset increased responsibilities.

The point is that it is necessary to maintain an adequate level of readiness if U.S. forces are to be a meaningful deterrent. More logistics resources could be used right now and DoD will need more in the future. Nonetheless, DoD is confident that sound logistics management will enable it to do the required job for the projected Defense force structure within the President's Top-Line projection.

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